Appl. No. 10/817,392
Amdt. dated January 30, 2008
Reply to Office Action of October 31, 2007

PATENT

REMARKS/ARGUMENTS

In this amendment, claims 1, 11, 17, and 20 are amended to be consistent with the respective preambles or other parts of the claim. No claims are canceled or added. Thus, after entry of this amendment, claims 1-22 remain pending.

Claim Rejections under 35 USC § 103(a), Rinaldi

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Fig. 1A, 1B, page 2, (0005)-(0006)) in view of Rinaldi et al (US Patent No. 6,327,002 B1).

Claims 1-10

Claim 1 is allowable as Rinaldi does not teach or suggest each and every element of claim 1. For example, claim 1 recites:

> *an encoder coupled to an output of the pixel pipeline circuit and having one or more processor elements configured to convert the pixel stream to digital sample values for a <u>target analog signal</u> representing the pixel stream in the target format, thereby generating a base data stream at a <u>base sampling rate</u>;*
> *a supersampling circuit coupled to an output of the encoder and configured to generate a supersampled data stream at a supersampling rate from the base data stream, <u>the supersampling rate being higher than the base sampling</u> <u>rate</u>.*

A. The stated motivation provides a feature that is <u>already</u> present in both prior art references, thus the motivation does not apply.

At page 3, the Office Action equates the encoder 134 of FIG. 1B with the encoder of claim 1. At ¶ 6, the specification notes that encoder 134 is configurable to output pixel streams corresponding to different analog formats (i.e. different video outputs). Thus, different video outputs are <u>already</u> available without a supersampling circuit, with the output of encoder 134 outputting a base sampling rate corresponding to the target analog signal that is currently configured.

Similarly, Rinaldi's encoder 22 is able to output a signal at the base sampling rate of the target analog output signal, regardless of the target format. *See Rinaldi*, col. 1 lines 31-47 and col. 3 lines 1-35. Note that only when the encoder 22 is not used is the upsampling module 70 employed to match the base sampling rate of the desired (target) output signal. *Id.*, FIG.2 and

col. 4 lines 1-16. As shown in FIG. 2, the output of the encoder 22 is sent directly the DAC 23 via the switching matrix 72 and does not go through the upsampling module 70. Thus, different video outputs are already available without using the upsampling module 70 since the encoder 22 already provides an output signal at the base sampling rate for the target analog output signal.

The Office Action asserts that the motivation to place the upsampling circuit 70 of Rinaldi into the output stream of FIG. 1B of the present specification is to produce a plurality of different video outputs. However, as described above, both the admitted prior art and Rinaldi already produce different video outputs with data from a pixel buffer. Thus, the stated motivation for adding the upsampling circuit 70 is incorrect and does not apply. Accordingly, the admitted prior art and Rinaldi, alone or in combination, do not teach or suggest *"a supersampling circuit coupled to an output of the encoder,"* as recited in claim 1.

B. The output of Rinaldi matches (equals) the base sampling rate, thus it is not higher that the base sampling rate.

Furthermore, the Office Action does not address the limitation *"the supersampling rate being higher than the base sampling rate."* The upsampling circuit 70 "changes the sampling frequency of the signals to match the desired output sampling frequencies." *Id.*, col. 4 lines 6-7. Thus, the upsampling circuit 70 generates an output with a rate that equals the base sampling rate corresponding to the target analog signal. Rinaldi does not mention a rate higher than the base sampling rate of the target output signal. If one simply wants to produce outputs in different formats, there would be no reason to produce a sampling rate higher than that of the sampling rate needed for the target output signal.

As described in the present specification, the inventors have identified an advantage of the supersampling rate being higher than the base sampling rate, which is to suppress high frequency echoes. *See present specification*, FIGS. 4B-4D (reproduced below) and ¶ 36-39. Note how the higher frequency echoes disappear for FIGS. 4C (2X supersampling) and 4D (4X supersampling).

For at least these reasons, claim 1 is allowable over the admitted prior art and Rinaldi. As claim 1 is allowable, dependent claims 2-10 are also allowable for at least the same rationale.
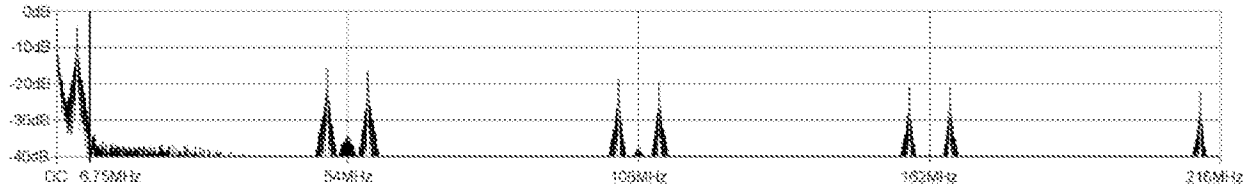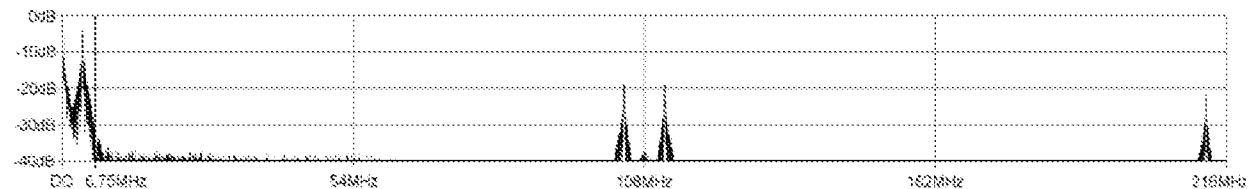
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FIG. 4B

FIG. 4C

FIG. 4D

<u>Claim 2</u>

Claim 2 is allowable for the additional reason that the frequency of upsampling module 70 is chosen to <u>match</u> that of the output analog signal, and <u>not</u> to be <u>higher</u> than that for the output analog signal and not to suppress higher frequency echoes, as recited in claim 2. Nowhere does Rinaldi mention the suppression of echoes; and since the frequencies used match the output signal, no suppression of echoes actually occurs in Rinaldi. Rinaldi does not even use the term "echo."

If the Examiner believes that higher frequency echoes are suppressed and that Rinaldi selects the upsampling rate to suppress the higher frequency echoes, then Applicants respectfully request an explanation of how and where this is being done in Rinaldi. For at least these additional reasons, claim 2 is allowable.

Claims 11-22

Applicants submit that independent claim 11, and its dependent claims 12-16; independent claim 17, and its dependent claims 18-19; and independent claim 20, and its dependent claims 21-22, are allowable for at least the same reasons as claim 1.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

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